

Notice of Allowability

Application No.

10/031,349

Examiner

Kevin L. McHenry

Applicant(s)

YAMAMURA ET AL.

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to interview of 12 October 2004.
2. ☒ The allowed claim(s) is/are 1-13, 17-19, 21-24 and 57.
3. ☒ The drawings filed on 20 May 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 7/26/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 10/13/04
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John McGroarty on 12 October 2004. This interview was a follow-up to the interview on 7 October 2004 in which the examiner agreed to consider the prior art cited in the IDS filed 26 July 2004 to determine if the application was allowable. The following amendments were then agreed upon.

The application has been amended as follows:

Cancel claim 20.

Replace claim 31 with the following:

31. A cooling drum for metal cast strip by continuous casting, characterized in that: the thermal conductivity of the base material of the drum is not less than 100 W/m·K; an intermediate layer 100 to 2000 μ m in thickness having the coefficient of thermal expansion of 0.50 to 1.20 times that of said drum base material and Vickers hardness Hv of not less than 150 is coated on the surface of said drum base material; a hard plated layer 1 to 500 μ m in thickness having Vickers hardness Hv of not less than 200 is applied on the outermost surface; further on the surface, dimples 200 to 2000 μ m in

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diameter and 80 to 200 μm in depth are formed so as to contact each other or be adjacent to each other; and on the surface, fine holes 50 to 200 μm in diameter and 30 μm or more in depth are formed so as to have the pitch of 100 to 500 μm but not to contact each other, wherein the fine holes are located inside each dimple.

Add the following claim:

57. The cooling drum of claim 31, wherein the fine holes are located on the rim of each dimple.

Allowable Subject Matter

2. Claims 1-13, 17-19, 21-24, and 57 are allowed.
3. The following is an examiner's statement of reasons for allowance: the instant application is deemed to be a nonobvious improvement over the invention of JP 09-103349. The improvements comprise dimples with fine holes inside that dimples that do not contact one another, have a diameter of 50 to 200 μm , a depth of 30 μm or more, and a pitch of 100 to 500 μm .

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin L. McHenry whose telephone number is (571) 272-1181. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin McHenry

KILEY S. STONER
PRIMARY EXAMINER

Kiley Stoner 10/18/01